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BHCTP Monthly Discharge Monitoring Report

Month: September-15
Facility: Central Treatment Plant
Location: Bunker Hill Superfund Site
Contract Number: W912DW-13-C-0026-P00008

Total Flow For The Month From 006 Outfall: 54,001,700 gallons
Sludge pumping to CIA sludge pond: 1,737,000 gallons

Total Flow From Kellogg Tunnel: 53,890,000 gallons

Percent of Influent Successfully Treated: 100.0%

13 sample days * 6 parameters (Pb, Cd, Zn, Mn, TSS & pH) = 78 potential exceedances
78 - 0 exceedances = 78 78/78 = 100%

Results of Sampling Efforts:

All sampling has been performed in accordance with specifications and the Sampling and Analysis Plan. QC and QA samples have been taken as required. All sample analysis results may be found within this DMR.

Performance Evaluation (PE) sampling for the CTP continued, with four PE samples delivered to SVL for this reporting period. The PE samples were identified as CTPXX (random CTP sites). These samples consisted of preserved 500-ml trace metal samples to be analyzed for Cd, Pb and Zn. The PE acceptable quantitation range is listed on the 'QC' page of this DMR.

Trip blank and rinsate samples were also taken, with the results being reported on the 'PTM-004, RB, TB' page of this DMR.

Highlights of Plant Maintenance and/or Plant Optimization:

09-01-15 Performed monthly fire extinguisher inspection. All CTP fire extinguishers are fully charged and in good working condition at this time.

09-01-15 Performed monthly pump and motor inspection. All CTP pumps and motors are in good condition at this time with the exception of the Rapid Mix gear box. Gear box vibration is increasing.

09-05-15 pH set point was increased to 8.5 from 8.3 as the KT flow has decreased from 1450 gpm to approximately 700. pH set point will be increased to 8.5 during extended KT low-flow periods.

09-08-15 Performed a no-load emergency generator run test and diagnostics. CTP generator was operated for 30 minutes with no issues or errors.

09-08-15 pH set point was increased to 8.5 from 8.3 as the KT flow has decreased from 1450 gpm to approximately 650. pH set point will be increased to 8.5 during extended KT low-flow periods.

09-09-15 Provided a plant and site tour to the USACE Phase II bid teams.

09-09-15 Chief Operator and Process Engineer attended the monthly CTP process review meeting. Process quality, plant operations, and operator work schedules were reviewed. pH set point increases during September were discussed. Treated outfall and KT discharge sample analyses were reviewed. The CTP treatment process is producing excellent discharge quality at this time. The pH set point will remain at 8.3.

09-11-15 Provided a plant and site tour to several USACE representatives.

09-14-15 IDEQ subcontractor provided notification that he will be accessing the CIA each evening after 5 p.m. for approximately seven days. Access was noted in the site access log.

09-15-15 Maul Foster reported a Lined Pond disposal total of 157 gallons of CDA Trust project water this past week.

The CDA Trust project water was disposed of into the Lined Pond.

09-15-15 Completed the annual emergency generator oil and filter change. All CTP annual and six-month oil changes for 2015 have been completed.

09-22-15 Operators performed the monthly full load emergency generator run test. The emergency generator operated all CTP components for one hour as programmed with no issues or errors to report.

09-22-15 Operators installed a new gear box to drive motor coupler on the Rapid Mix Tank. The gear drive unit continues to cause excessive vibration on the drive motor and couplers. The couplers wear out in approximately six weeks.

09-22-15 Operators dismantled the #1 lime slurry loop pressure valve and replaced the valve liner. The existing liner was near fail mode and was leaking lime. Additional valve liners will be purchased and placed in inventory stock. The #1 lime slurry loop pressure valve was placed back into service at approximately 18 psi.

09-22-15 Provided a plant and site tour to several CH2M Hill representatives.

09-23-15 Operators removed and dismantled the lime system sump pump. New lower unit pump bearings were installed. The sump pump was reassembled, installed and tested. The lime system sump pump is now in good working condition.

09-25-15 IDEQ subcontractor provided notification that he will be accessing the CIA each evening after 5 p.m. for approximately seven additional days. Access was noted in the site access log.

09-30-15 pH set point was increased to 8.5 from 8.3 as the KT flow has decreased from 1400 gpm to approximately 650. pH set point will be increased to 8.5 during extended KT low-flow periods.

During this reporting period:

- The Kellogg Tunnel discharge flow decreased by 4% from September 2014, from 56.2 mg to 53.9 mg.
- The Kellogg Tunnel zinc concentration decreased by 4% from September 2014, from an average of 66 mg/L to 63 mg/L.
- The CTP operating pH set point was increased to 8.5 from 8.3 during extended KT low-flow periods.
- The flocculent dosage was increased to approximately 3 ppm from 2 ppm on September 22nd to reduce process turbidity.
- The CTP sludge recycle rate remained at 400 gpm.
- CTP operators received three off-shift auto dialer call-out alarms.
- CTP operators performed two short-term pumping events from the Lined Pond.
- CTP operators performed Aeration Basin pH probe and grab sample verification twice per day.
- **CTP operators observed no mill discharge into the Kellogg Tunnel flow.**

Lessons Learned:

No significant lessons to report for last month.

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
2015	9	1		2015	9	30

PARAMETER		Quantity or Loading			Quality or Concentration				FREQUENCY OF ANALYSIS	SAMPLE TYPE
		MONTHLY AVERAGE	DAILY MAXIMUM	UNITS	MINIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	UNITS		
pH	Sample Measurement				7.03		7.28		Continuous	Meter
	Permit Required				6.0		10.0			
Flow Thru Treatment Plant	Sample Measurement	1.80	2.20	mgd						
	Permit Required		Daily							
Lead Total - Pb Effluent	Sample Measurement	0.04	0.06	lbs/day		0.003	0.003	mg/L	three samples/ week	Comp 24
	Permit Required	14.8	37.0			0.30	0.60	mg/L		
Zinc Total - Zn Effluent	Sample Measurement	2.74	5.43	lbs/day		0.19	0.30	mg/L	three samples/ week	Comp 24
	Permit Required	36.2	91.3			0.73	1.48	mg/L		
Cadmium - Cd Effluent	Sample Measurement	0.066	0.143	lbs/day		0.005	0.008	mg/L	three samples/ week	Comp 24
	Permit Required	2.40	6.10			0.050	0.100	mg/L		
Manganese - Mn Effluent	Sample Measurement	299.9	502	lbs/day		21.4	30.7	mg/L	three samples/ week	Comp 24
	No Permit Required					N/A	N/A	mg/L		
Total Suspended Solids - TSS	Sample Measurement	21.7	41	lbs/day		1.5	2.4	mg/L	three samples/ week	Comp 24
	Permit Required	985	1907			20	30	mg/L		

PREPARED BY: GARY FULTON

REVIEWED BY: Mark Reinsel, Ph.D., P.E.

**NPDES DISCHARGE POINT 006
CENTRAL TREATMENT PLANT
MONTH: Sep-15**

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	FLOW mgd	TSS		LOADING kg/day
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day			mg/L	lbs/day	
1										2.10			
2	0.003	0.05	0.117	2.00	0.004	0.07	21.5	368	7.22	2.05	2.40	41.1	18.62
3										2.10			
4	0.003	0.03	0.212	2.25	0.005	0.05	11.3	120	7.28	1.27	1.80	19.1	8.65
5										1.72			
6										2.10			
7	0.003	0.05	0.177	3.07	0.005	0.09	19.9	345	7.12	2.08	1.80	31.2	14.17
8										2.04			
9	0.003	0.03	0.149	1.25	0.005	0.04	22.9	192	7.10	1.00	1.40	11.7	5.31
10										1.63			
11	0.003	0.06	0.296	5.43	0.008	0.14	14.8	271	7.16	2.20	1.20	22.0	10.0
12										2.10			
13										2.10			
14	0.003	0.05	0.180	2.91	0.006	0.09	20.9	338	7.15	1.94	1.00	16.2	7.3
15										2.05			
16	0.003	0.02	0.187	1.43	0.005	0.04	26.4	202	7.10	0.92	1.00	7.7	3.47
17										0.83			
18	0.003	0.05	0.210	3.26	0.004	0.06	17.7	275	7.03	1.86	1.20	18.6	8.45
19										2.03			
20										2.13			
21	0.003	0.05	0.171	2.95	0.004	0.07	22.8	394	7.22	2.07	2.20	38.00	17.24
22										2.00			
23	0.003	0.02	0.169	1.34	0.005	0.04	26.1	207	7.15	0.95	1.60	12.7	5.76
24										0.83			
25	0.003	0.05	0.200	3.04	0.005	0.07	18.0	273	7.18	1.82	1.80	27.3	12.40
26										2.04			
27										2.13			
28	0.003	0.05	0.186	3.07	0.004	0.06	24.9	411	7.22	1.98	1.20	19.8	8.98
29										1.98			
30	0.003	0.05	0.218	3.57	0.003	0.05	30.7	502	7.21	1.96	1.00	16.4	7.42
31													
Total	0.039	0.56	2.47	35.6	0.06	0.86	277.9	3898	93.1	54.00	19.6	281.8	127.8
Sample Events	13	13	13	13	13	13	13	13	13	30	13	13	13
Daily Average	0.003031	0.04	0.19	2.74	0.005	0.07	21.4	300	7.16	1.80	1.51	21.67	9.83
Lab Detection Limit	0.003		0.004		0.001		0.004		0.01		0.800		

MIN	0.003	0.02	0.12	1.25	0.0028	0.04	11.30	120	7.03	0.83	1.00	7.66	3.47
MAX	0.0034	0.06	0.30	5.43	0.0078	0.14	30.70	502	7.28	2.20	2.40	41.06	18.62

**KELLOGG TUNNEL DISCHARGE
CENTRAL TREATMENT PLANT
MONTH: Sep-15
Data from SVL**

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	006 FLOW		TSS	
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day		mgd	mg/L	lbs/day	kg/day
1										2.10			
2										2.05			
3	0.516	9.04	45	796	0.078	1.37	79	1,377	3.42	2.10	78	1,367	620
4										1.27			
5										1.72			
6										2.10			
7	0.513	8.90	46	790	0.079	1.37	79	1,375	3.34	2.08	100	1,736	787
8										2.04			
9										1.00			
10	0.699	9.51	93	1,269	0.166	2.26	34	456	2.93	1.63	39	530	241
11										2.20			
12										2.10			
13										2.10			
14	0.544	8.79	57	925	0.082	1.32	83	1,346	3.38	1.94	84	1,358	616
15										2.05			
16										0.92			
17	0.819	5.67	87	601	0.178	1.23	34	236	2.93	0.83	32	222	101
18										1.86			
19										2.03			
20										2.13			
21	0.498	8.60	46	802	0.074	1.28	82	1,415	3.44	2.07	69	1,192	541
22										2.00			
23										0.95			
24	0.760	5.24	83	571	0.167	1.15	33	226	2.95	0.83	18	124	56
25										1.82			
26										2.04			
27										2.13			
28	0.667	11.01	45	746	0.071	1.18	79	1,309	3.47	1.98	77	1,271	576
29										1.98			
30										1.96			

**PTM Effluent at Lined Storage Pond
CENTRAL TREATMENT PLANT**

Month: Sep-15

DATE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L	pH s.u.	TSS mg/L
09/03/15	0.003	10.8	1.46	6.90	0.6
09/17/15	0.003	10.7	1.43	6.57	0.6

**RINSATE AND TRIP BLANKS
CENTRAL TREATMENT PLANT**

Month: Sep-15

Rinsate and Trip Blank samples will be taken approximately every 20 QC events, or one each per month.

LOCATION	DATE	SAMPLE	LEAD mg/L	ZINC mg/L	CADMIUM mg/L
Rinsate & Trip Blank					
Treated Outfall 006		RB-09-25-15	<0.01	<0.004	<0.002
Trip Blank (D.I.water)		TB-09-25-15	<0.01	<0.004	<0.002

CENTRAL TREATMENT PLANT

MISCELLANEOUS FLOWS

Month : Sep-15

Date	KT Flow Meter Reading
8/31/2015	0
9/30/2015	53,890,000
Total	53,890,000

Date	006 Flow Meter Reading
8/31/2015	0
9/30/2015	54,001,700
Total	54,001,700

Sweeny Pump Station Reading				
Date	#1 Pump	620 gpm	#2 Pump	500 gpm
8/31/2015	170.0	Hours	785.0	Hours
9/30/2015	170.0	Hours	785.0	Hours
Total Hours	0.0	Hours	0.0	Hours
Total Flow for 004/Sweeny For The Month =		0	Gallons	

PTM Discharge Flow	
Date	Flow (gpm)
09/03/15	3.0
09/17/15	5.0

Date	Lined Storage Pond Water Level			
8/31/2015	2,250,000	gal	Elev. =	2271.0
9/30/2015	1,000,000	gal	Elev. =	2269.0

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2000-2009

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Jan.	61,000,000	61,677,510	54,606,100	53,066,890	52,223,080	53,150,000	56,050,900	56,281,000	53,465,820	50,936,960
Feb.	57,600,000	45,584,000	52,840,000	46,493,470	48,306,920	49,860,000	51,188,000	50,511,300	49,282,209	48,146,111
March	60,730,000	57,740,360	50,452,060	60,162,290	59,852,720	58,073,000	56,332,830	65,443,650	54,578,130	61,712,540
April	68,680,000	54,846,000	65,583,230	63,335,350	50,715,310	53,775,350	72,039,280	66,636,500	61,690,530	63,055,350
May	97,719,900	57,501,901	76,082,410	63,335,350	53,245,000	54,181,650	72,027,000	63,203,308	86,680,760	70,233,580
June	69,800,000	55,835,590	67,299,960	59,532,434	50,451,170	51,750,000	68,385,600	57,981,410	82,622,590	64,623,180
July	63,698,850	53,652,330	64,820,120	66,252,746	56,538,980	55,255,000	64,054,000	58,282,900	66,324,500	61,535,000
Aug.	66,707,120	45,289,000	58,212,940	62,074,750	52,002,140	49,970,000	64,621,000	55,335,900	65,168,620	56,446,670
Sept.	55,797,530	50,276,020	60,140,460	43,789,000	49,208,020	49,987,000	54,515,270	50,471,870	61,074,020	57,006,430
Oct.	60,424,720	50,660,840	54,485,871	52,869,290	59,601,690	52,807,000	57,610,030	50,086,330	58,666,300	55,830,000
Nov.	53,408,660	50,660,840	51,072,259	47,600,000	51,948,000	50,722,600	55,191,700	50,779,040	52,041,780	54,956,800
Dec.	56,414,870	53,464,780	56,034,000	56,413,080	56,770,000	54,904,400	60,486,900	53,716,210	55,727,260	54,542,700
Totals	771,981,650	637,189,171	711,629,410	674,924,650	640,863,030	634,436,000	732,502,510	678,729,418	747,322,519	699,025,321

KELLOGG TUNNEL ANNUAL DISCHARGE FLOWS 2010-2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Jan.	55,503,180	61,797,170	58,434,610	61,855,400	57,478,450	58,440,540				
Feb.	50,819,910	54,556,227	57,763,170	59,383,290	54,607,950	59,767,470				
March	54,691,420	61,373,630	67,236,650	66,264,780	65,396,350	64,468,230				
April	56,255,340	65,687,340	81,233,630	69,619,100	65,618,770	63,056,840				
May	58,825,640	84,365,390	86,826,340	71,496,380	80,598,590	61,898,200				
June	56,770,200	79,985,540	83,440,990	64,663,900	65,623,330	56,368,540				
July	56,727,510	79,346,330	74,315,690	62,844,790	63,425,030	55,655,000				
Aug.	56,239,370	70,377,570	68,986,900	58,459,380	61,486,270	55,316,100				
Sept.	54,109,980	60,404,280	62,270,300	58,097,500	56,279,590	53,890,000				
Oct.	55,480,200	62,403,480	59,991,850	58,325,780	60,659,850					
Nov.	54,856,880	58,430,700	57,184,220	56,215,000	55,065,100					
Dec.	54,607,330	58,617,700	61,750,390	56,932,530	59,770,540					
Totals	664,886,960	797,345,357	819,434,740	744,157,830	746,009,820	528,860,920	0	0	0	0

 Yellow indicates record monthly flow as well as record annual flow

KELLOGG TUNNEL ZINC DATA

<u>Month</u>	<u>Concentration (mg/L)</u>											
	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>
Jan.		86	81	79	63	70	61	72	57	68	41	46
Feb.		86	91	96	55	72	57	95	58	68	41	68
March		94	116	86	65	68	53	86	58	69	58	81
April		98	121	140	85	80	50	137	176	86	107	92
May		105	231	179	318	136	57	377	215	150	177	87
June		107	182	118	271	143	68	347	164	106	131	78
July		90	144	111	198	117	75	181	136	87	87	75
Aug.		87	112	92	132	94	79	130	110	86	76	66
Sept.		84	107	80	107	76	81	132	107	75	66	
Oct.	59	81	100	88	99	75	70	86	70	67	63	
Nov.	66	79	88	88	104	63	57	95	71	70	55	
Dec.	67	62	78	65	76	59	61	88	69	54	49	
average	64	88	121	102	131	88	64	152	108	82	79	74
lime usage (tons/day)		2.59	3.23	2.76	4.78	3.24	2.16	4.31	3.93	2.46	2.70	
Zinc Conc. Increase/Decrease			37%	-16%	29%	-33%	-27%	138%	-29%	-24%	-4%	-6%
Lime Usage Increase/Decrease			25%	-15%	73%	-32%	-33%	100%	-9%	-37%	10%	-100%

Bunker Hill Superfund Site							
Kellogg, Idaho							
Central Treatment Plant Review							
Month: Sep-15							
SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
006/CTP Outfall	09/02/15	Cadmium	0.004	0.004	mg/L	2.5%	104%
		Lead	0.003	0.003	mg/L	0.0%	97%
Lab Duplicate		Manganese	21.5	21.2	mg/L	1.4%	98%
		Zinc	0.117	0.116	mg/L	0.9%	94%
		pH	7.22	7.18	s.u.	0.6%	
		TSS	2.4	2.4	mg/L	0.0%	
Performance	09/03/15	Cadmium	0.052	0.050	mg/L	3.9%	
Evaluation		Lead	0.322	0.300	mg/L	7.1%	
Sample		Zinc	0.788	0.730	mg/L	7.6%	
(CTPXX-09-03-15)							
PTM Discharge	09/03/15	Cadmium	1.46	1.46	mg/L	0.0%	100%
		Lead	0.003	0.003	mg/L	-3.3%	92%
Lab Duplicate		Manganese	0.786	0.791	mg/L	-0.6%	98%
		Zinc	10.7	10.7	mg/L	0.0%	84%
PTM Discharge	09/03/15	Cadmium	1.46	1.48	mg/L	-1.4%	
		Lead	0.003	0.003	mg/L	0.0%	
QC Sample		Manganese			mg/L		
		Zinc	10.7	10.9	mg/L	-1.9%	
		pH	6.55	6.42	s.u.	2.0%	
		TSS	0.4	0.6	mg/L	-22.2%	
006/CTP Outfall	09/04/15	Cadmium	0.005	0.005	mg/L	4.3%	102%
		Lead	0.003	0.003	mg/L	0.0%	95%
Lab Duplicate		Manganese	11.3	11.5	mg/L	-1.8%	91%
		Zinc	0.212	0.216	mg/L	-1.9%	95%
		pH	7.28	7.26	s.u.	0.3%	
		TSS	1.8	1.8	mg/L	0.0%	
006/CTP Outfall	09/07/15	Cadmium	0.005	0.005	mg/L	2.0%	99%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	19.9	19.8	mg/L	0.5%	
		Zinc	0.177	0.180	mg/L	-1.7%	88%
		pH	7.12	7.11	s.u.	0.1%	
		TSS	1.8	1.8	mg/L	0.0%	
Kellogg Tunnel	09/07/15	Cadmium	0.079	0.078	mg/L	0.5%	98%
		Lead	0.513	0.505	mg/L	1.6%	89%
Lab Duplicate		Manganese	79.2	79.4	mg/L	-0.3%	
		Zinc	45.5	44.5	mg/L	2.2%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	09/09/15	Cadmium	0.005	0.005	mg/L	1.3%	92%
		Lead	0.003	0.003	mg/L	0.0%	86%
Lab Duplicate		Manganese	22.9	23.2	mg/L	-1.3%	95%
		Zinc	0.149	0.152	mg/L	-2.0%	86%
		pH	7.10	7.01	s.u.	1.3%	
		TSS	1.4	1.4	mg/L	0.0%	
Performance	09/10/15	Cadmium	0.055	0.050	mg/L	10.2%	

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
Evaluation		Lead	0.335	0.300	mg/L	11.0%	
Sample		Zinc	0.887	0.730	mg/L	19.4%	
(CTPXX-09-10-15)							
PE Lab Dupe	09/10/15	Cadmium	0.055	0.053	mg/L	4.6%	94%
		Lead	0.335	0.321	mg/L	4.3%	93%
		Manganese	0.002	0.002	mg/L	0.0%	99%
(CTPXX-09-10-15)		Zinc	0.887	0.850	mg/L	4.3%	92%
006/CTP Outfall	09/11/15	Cadmium	0.008	0.008	mg/L	0.0%	99%
		Lead	0.003	0.003	mg/L	0.0%	93%
Lab Duplicate		Manganese	14.8	15.5	mg/L	-4.6%	
		Zinc	0.296	0.300	mg/L	-1.3%	93%
		pH	7.16	7.14	s.u.	0.3%	
		TSS	1.2	1.2	mg/L	0.0%	
Kellogg Tunnel	09/14/15	Cadmium	0.082	0.080	mg/L	1.5%	100%
		Lead	0.544	0.538	mg/L	1.1%	93%
Lab Duplicate		Manganese	83.3	81.5	mg/L	2.2%	
		Zinc	57.2	57.1	mg/L	0.2%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	09/14/15	Cadmium	0.006	0.006	mg/L	-3.4%	103%
		Lead	0.003	0.003	mg/L	0.0%	97%
Lab Duplicate		Manganese	20.9	20.7	mg/L	1.0%	105%
		Zinc	0.180	0.180	mg/L	0.0%	99%
		pH	7.15	7.07	s.u.	1.1%	
		TSS	1.0	1.0	mg/L	0.0%	
006/CTP Outfall	09/16/15	Cadmium	0.005	0.005	mg/L	4.1%	104%
		Lead	0.003	0.003	mg/L	0.0%	98%
Lab Duplicate		Manganese	26.4	26.4	mg/L	0.0%	109%
		Zinc	0.187	0.187	mg/L	0.0%	99%
		pH	7.10	7.09	s.u.	0.1%	
		TSS	1.0	1.0	mg/L	0.0%	
Performance	09/17/15	Cadmium	0.053	0.050	mg/L	6.6%	
Evaluation		Lead	0.317	0.300	mg/L	5.5%	
Sample		Zinc	0.838	0.730	mg/L	13.8%	
(CTPXX-09-17-15)							
PE Lab Duplicate	09/17/15	Cadmium	0.053	0.052	mg/L	2.3%	97%
		Lead	0.317	0.311	mg/L	1.9%	95%
		Manganese	0.002	0.002	mg/L	0.0%	99%
(CTPXX-09-17-15)		Zinc	0.838	0.825	mg/L	1.6%	94%
006/CTP Outfall	09/18/15	Cadmium	0.003	0.004	mg/L	-8.5%	94%
		Lead	0.003	0.003	mg/L	-12.5%	86%
Lab Duplicate		Manganese	17.7	17.8	mg/L	-0.6%	97%
		Zinc	0.210	0.209	mg/L	0.5%	92%
		pH	7.03	7.00	s.u.	0.4%	
		TSS	1.2	1.2	mg/L	0.0%	
Kellogg Tunnel	09/21/15	Cadmium	0.074	0.074	mg/L	0.3%	99%
		Lead	0.498	0.496	mg/L	0.4%	93%
Lab Duplicate		Manganese	81.9	81.1	mg/L	1.0%	
		Zinc	46.4	46.4	mg/L	0.0%	89%
		pH			s.u.		

SAMPLE	DATE	PARAMETER	VALUE	QC/dup	UNITS	PRECISION	MATRIX SPIKE DATA
LOCATION			RESULTS			% RPD	% RECOVERY
		TSS			mg/L		
Kellogg Tunnel	09/21/15	Cadmium	0.074	0.072	mg/L	3.6%	
		Lead	0.498	0.484	mg/L	2.9%	
QC Sample		Manganese	81.9	79.7	mg/L	2.7%	
		Zinc	46.4	44.6	mg/L	4.0%	
		pH	3.44	3.43	s.u.	0.3%	
		TSS	69.0	73.0	mg/L	-5.6%	
006/CTP Outfall	09/23/15	Cadmium	0.005	0.005	mg/L	-2.2%	96%
		Lead	0.003	0.003	mg/L	0.0%	91%
Lab Duplicate		Manganese	26.1	26.0	mg/L	0.4%	
		Zinc	0.169	0.168	mg/L	0.6%	90%
		pH	7.15	7.13	s.u.	0.3%	
		TSS	1.6	1.6	mg/L	0.0%	
Performance	09/24/15	Cadmium	0.052	0.050	mg/L	3.9%	
Evaluation		Lead	0.308	0.300	mg/L	2.6%	
Sample		Zinc	0.800	0.730	mg/L	9.2%	
(CTPXX-09-24-15)							
006/CTP Outfall	09/25/15	Cadmium	0.005	0.005	mg/L	-8.5%	
		Lead	0.003	0.003	mg/L	0.0%	
QC Sample		Manganese	18.0	17.8	mg/L	1.1%	
		Zinc	0.200	0.203	mg/L	-1.5%	
		pH	7.18	7.18	s.u.	0.0%	
		TSS	1.8	2.4	mg/L	-24.3%	
006/CTP Outfall	09/25/15	Cadmium	0.005	0.005	mg/L	-4.3%	99%
		Lead	0.003	0.003	mg/L	0.0%	93%
Lab Duplicate		Manganese	18.0	18.1	mg/L	-0.6%	86%
		Zinc	0.200	0.242	mg/L	-19.0%	94%
		pH	7.18	7.14	s.u.	0.6%	
		TSS	1.8	1.8	mg/L	2.2%	
Trip Blank	09/25/15	Cadmium	0.001	0.001	mg/L	0.0%	96%
Lab Duplicate		Lead	0.003	0.003	mg/L	0.0%	94%
		Manganese	0.002	0.002	mg/L	0.0%	97%
(TB-09-25-15)		Zinc	0.004	0.004	mg/L	0.0%	92%
006/CTP Outfall	09/28/15	Cadmium	0.004	0.004	mg/L	2.7%	1%
		Lead	0.003	0.003	mg/L	0.0%	95%
Lab Duplicate		Manganese	24.9	25.4	mg/L	-2.0%	112%
		Zinc	0.186	0.188	mg/L	-1.1%	97%
		pH	7.22	7.18	s.u.	0.6%	
		TSS	1.2	1.2	mg/L	0.0%	
Kellogg Tunnel	09/28/15	Cadmium	0.071	0.070	mg/L	1.1%	100%
		Lead	0.667	0.670	mg/L	-0.4%	94%
Lab Duplicate		Manganese	79.3	80.0	mg/L	-0.9%	
		Zinc	45.2	45.3	mg/L	-0.2%	
		pH			s.u.		
		TSS			mg/L		
006/CTP Outfall	09/30/15	Cadmium	0.003	0.003	mg/L	0.0%	93%
		Lead	0.003	0.003	mg/L	0.0%	89%
Lab Duplicate		Manganese	30.9	30.7	mg/L	0.6%	112%
		Zinc	0.216	0.218	mg/L	-0.9%	92%
		pH	7.19	7.21	s.u.	-0.3%	

		Bunker Hill Superfund Site						
		Kellogg, Idaho						
		Central Treatment Plant Review						
		Month: Sep-15						
			CONCENTRATION (mg/L)					
SAMPLE	DATE	PARAMETER	SPIKE	DUPLICATE	SPIKE	PRECISION		
LOCATION			ADDED	RESULT	RESULT	% RPD	COMMENTS	
006/CTP Outfall	09/02/15	Cadmium	1.00	1.05	1.05	0.5%		
MS/MSD		Lead	1.00	0.969	0.969	0.0%		
		Manganese	1.00	22.3	22.5	0.5%	Sample conc. >> spike level	
		Zinc	1.00	1.06	1.06	0.3%		
PTM Discharge	09/03/15	Cadmium	1.00	2.42	2.45	1.3%		
MS/MSD		Lead	1.00	0.915	0.924	1.0%		
		Manganese	1.00	1.73	1.76	1.7%	Sample conc. >> spike level	
		Zinc	1.00	11.5	11.6	0.8%		
006/CTP Outfall	09/04/15	Cadmium	1.00	1.03	1.02	1.0%		
MS/MSD		Lead	1.00	0.954	0.952	0.2%		
		Manganese	1.00	12.2	12.2	0.1%	Sample conc. >> spike level	
		Zinc	1.00	1.16	1.16	0.0%		
006/CTP Outfall	09/07/15	Cadmium	1.00	0.930	0.995	6.8%		
MS/MSD		Lead	1.00	0.846	0.914	7.8%		
		Manganese	1.00	20.4	20.6	1.0%	Sample conc. >> spike level	
		Zinc	1.00	0.998	1.06	5.8%		
Kellogg Tunnel	09/07/15	Cadmium	1.00	1.06	1.06	0.7%		
MS/MSD		Lead	1.00	1.41	1.40	0.8%		
		Manganese	1.00	79.5	79.9	0.5%	Sample conc. >> spike level	
		Zinc	1.00	45.7	45.5	0.4%		
006/CTP Outfall	09/09/15	Cadmium	1.00	0.976	0.919	6.0%		
MS/MSD		Lead	1.00	0.917	0.859	6.5%		
		Manganese	1.00	24.1	23.8	1.3%	Sample conc. >> spike level	
		Zinc	1.00	1.06	1.01	5.0%		
PE Sample	09/10/15	Cadmium	1.00	1.01	0.996	1.3%		
MS/MSD		Lead	1.00	1.28	1.27	0.8%		
CTPXX-09-10-15		Manganese	1.00	0.991	0.989	0.2%	Sample conc. >> spike level	
		Zinc	1.00	1.81	1.81	0.4%		
006/CTP Outfall	09/13/15	Cadmium	1.00	0.993	0.994	0.1%		
MS/MSD		Lead	1.00	0.926	0.928	0.2%		
		Manganese	1.00	15.8	16.2	2.6%	Sample conc. >> spike level	
		Zinc	1.00	1.22	1.23	0.9%		
Kellogg Tunnel	09/14/15	Cadmium	1.00	1.09	1.08	0.9%		
MS/MSD		Lead	1.00	1.49	1.48	1.0%		
		Manganese	1.00	84.8	83.9	1.0%	Sample conc. >> spike level	
		Zinc	1.00	59.2	58.6	0.9%		
006/CTP Outfall	09/14/15	Cadmium	1.00	1.02	1.03	1.6%		
MS/MSD		Lead	1.00	0.959	0.968	1.0%		
		Manganese	1.00	21.9	22.0	0.5%	Sample conc. >> spike level	
		Zinc	1.00	1.15	1.17	1.1%		
006/CTP Outfall	09/16/15	Cadmium	1.00	1.05	1.05	0.2%		
MS/MSD		Lead	1.00	0.987	0.983	0.4%		
		Manganese	1.00	28.2	27.5	2.7%	Sample conc. >> spike level	
		Zinc	1.00	1.19	1.18	0.8%		
PE Sample	09/17/15	Cadmium	1.00	1.01	1.02	1.4%		
MS/MSD		Lead	1.00	1.25	1.27	1.9%		

CTPXX-09-17-15		Manganese	1.00	0.991	0.993	0.2%	Sample conc. >> spike level
		Zinc	1.00	1.74	1.77	1.7%	
006/CTP Outfall	09/18/15	Cadmium	1.00	0.955	0.941	1.6%	
MS/MSD		Lead	1.00	0.871	0.867	0.4%	
		Manganese	1.00	19.0	18.7	1.5%	Sample conc. >> spike level
		Zinc	1.00	1.13	1.13	0.1%	
006/CTP Outfall	09/21/15	Cadmium	1.00	1.00	1.00	0.1%	
MS/MSD		Lead	1.00	0.935	0.927	0.8%	
		Manganese	1.00	24.0	24.1	0.4%	Sample conc. >> spike level
		Zinc	1.00	1.08	1.07	0.3%	
Kellogg Tunnel	09/21/15	Cadmium	1.00	1.06	1.07	0.9%	
MS/MSD		Lead	1.00	1.43	1.43	0.1%	
		Manganese	1.00	80.8	81.8	1.2%	Sample conc. >> spike level
		Zinc	1.00	46.8	47.2	1.0%	
006/CTP Outfall	09/23/15	Cadmium	1.00	0.965	0.962	0.3%	
MS/MSD		Lead	1.00	0.913	0.909	0.5%	
		Manganese	1.00	26.9	26.5	1.4%	Sample conc. >> spike level
		Zinc	1.00	1.08	1.06	1.1%	
Trip Blank Sample	09/25/15	Cadmium	1.00	0.973	0.964	1.0%	
MS/MSD		Lead	1.00	0.951	0.935	1.7%	
TB-09-25-15		Manganese	1.00	0.983	0.968	1.6%	Sample conc. >> spike level
		Zinc	1.00	0.935	0.916	2.0%	
006/CTP Outfall	09/25/15	Cadmium	1.00	1.00	0.990	1.2%	
MS/MSD		Lead	1.00	0.947	0.929	1.9%	
		Manganese	1.00	18.6	18.8	1.1%	Sample conc. >> spike level
		Zinc	1.00	1.15	1.14	1.2%	
Kellogg Tunnel	09/28/15	Cadmium	1.00	1.05	1.07	2.5%	
MS/MSD		Lead	1.00	1.56	1.61	2.9%	
		Manganese	1.00	78.4	81.5	3.9%	Sample conc. >> spike level
		Zinc	1.00	44.8	45.8	2.1%	
006/CTP Outfall	09/29/15	Cadmium	1.00	1.01	1.02	1.0%	
MS/MSD		Lead	1.00	0.942	0.951	0.9%	
		Manganese	1.00	25.9	26.1	0.8%	Sample conc. >> spike level
		Zinc	1.00	1.14	1.15	0.8%	
006/CTP Outfall	09/30/15	Cadmium	1.00	0.930	0.936	0.6%	
MS/MSD		Lead	1.00	0.893	0.893	0.0%	
		Manganese	1.00	31.3	31.8	1.6%	Sample conc. >> spike level
		Zinc	1.00	1.13	1.14	0.6%	

CTP Mine Water Line Open Channel Inspection Form

**Note: This form should be utilized weekly during the regular channel cleanout.
Results will be include with the Daily Quality Control Report and monthly DMR.**

Date: September 17, 2015 Inspected By: Steve Brunner, Gary Coast

Item Inspected	Condition	Comments
Channel Sections and Joints	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Inlet Connection @ KT	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Outlet/Pipeline Inlet	Good / Poor	<u>Check for cracks</u> <u>Ok</u>
Channel Bottom (during low flows)	Good / Poor	<u>Ok</u>
Bottom Joints (during low flows)	Good / Poor	<u>Ok</u>
Trash Rack Assembly Rail Units	Good / Poor	<u>Check for corrosion and bolt tightness</u> <u>Ok</u>
Trash Racks	Good / Poor	<u>Removed debris from trash racks</u>
Parshall Flume	Good / Poor	<u>Check fiberglass and joint connections</u> <u>Ok</u>

General Comments: Removed debris from both trash racks.

Bunker mine has no pump running at this time.

The Kellogg Tunnel flow at this time is 0.84 mgd (583 gpm), pH at this time is 2.90

All flume components are in good shape at this time with the exception of the flume staff gauge.

Alternate hand held staff gauges will be utilized to verify fume staff gauge and flow meter readings.

Ultrasonic flow meter calibration was correct.

Operators observed no mill discharge in the flume/trash rack area at this time.



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0

Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 02-Sep-15
Received: 02-Sep-15
Reported: 03-Sep-15 15:19

LAB #	WS00018-01	-	-	-	-	-
SAMPLE ID	006-09-02-15	-	-	-	-	-
Reporting Unit	09/02/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0041 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	21.5 [3]	-	-	-	-
Zinc	0.020 mg/L	0.117	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.22 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	2.4	-	-	-	-

John Kern
Laboratory Director

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Kellogg ID 83837-0929

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Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 03-Sep-15

Received: 04-Sep-15

Reported: 10-Sep-15 10:04

LAB #	WS10094-01	WS10094-02	WS10094-03	WS10094-04	-	-
SAMPLE ID	KT-09-03-15	CTP100-09-03-15	PTM-09-03-15	QC-09-03-15	-	-
Reporting Unit	09/03/2015 07:30	09/03/2015 07:00	09/03/2015 08:00	09/03/2015 08:00	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0782	0.0520	1.46	1.48	-
Lead	0.0500 mg/L	0.516	0.322	<0.0000 [3]	<0.0010 [3]	-
Manganese	0.0200 mg/L	78.6	-	-	-	-
Zinc	0.020 mg/L	45.4	0.788	10.7 [2]	10.9	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.42	-	6.55	6.42	-
Total Susp. Solids	5.0 mg/L	78.0	-	0.4 [1]	0.6 [1]	-

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901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 04-Sep-15

Received: 04-Sep-15

Reported: 08-Sep-15 12:26

LAB #	WS0099-01	-	-	-	-	-
SAMPLE ID	006-09-04-15	-	-	-	-	-
Reporting Unit	09/04/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0048 [1]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [1]	-	-	-	-
Manganese	0.0200 mg/L	11.3 [2]	-	-	-	-
Zinc	0.020 mg/L	0.212	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.26	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.8	-	-	-	-

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Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 07-Sep-15

Received: 08-Sep-15

Reported: 10-Sep-15 10:05

LAB #	WSI0125-01	-	-	-	-	-
SAMPLE ID	KT-09-07-15	-	-	-	-	-
Reporting Unit	09/07/2015 07:35	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0787	-	-	-	-
Lead	0.0500 mg/L	0.513	-	-	-	-
Manganese	0.0200 mg/L	79.2	-	-	-	-
Zinc	0.020 mg/L	45.5	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.34 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	100	-	-	-	-

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Kellogg ID 83837-0929

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Ferguson Contracting

Project: BHCTP

Sampled: 09-Sep-15

901 N. Division

Received: 09-Sep-15

Pinehurst, ID 83850

Reported: 10-Sep-15 13:03

LAB #	WSI0160-01	-	-	-	-	-
SAMPLE ID	006-09-09-15	-	-	-	-	-
Reporting Unit	09/09/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0046 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	22.9 [3]	-	-	-	-
Zinc	0.020 mg/L	0.149	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.10 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.4	-	-	-	-

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Kellogg ID 83837-0929

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Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 07-Sep-15
Received: 08-Sep-15
Reported: 09-Sep-15 14:25

LAB #	WSI0124-01	-	-	-	-	-
SAMPLE ID	006-09-07-15	-	-	-	-	-
Reporting Unit	09/07/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0050 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	19.9 [3]	-	-	-	-
Zinc	0.020 mg/L	0.177	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.12 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.8	-	-	-	-

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Ferguson Contracting
901 N. Division
Pinehurst, ID 83850

Project: BHCTP

Sampled: 10-Sep-15
Received: 11-Sep-15
Reported: 18-Sep-15 15:19

LAB #	WS10229-01	WS10229-02	-	-	-	-
SAMPLE ID	KT-09-10-15	CTP100-09-10-15	-	-	-	-
Reporting Unit	09/10/2015 07:30	09/10/2015 07:00	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.165	0.0554	-	-	-
Lead	0.0500 mg/L	0.699	0.335	-	-	-
Manganese	0.0200 mg/L	33.5	-	-	-	-
Zinc	0.020 mg/L	93.3	0.867	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	2.93 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	39.0	-	-	-	-

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Project: BHCTP

Sampled: 11-Sep-15
Received: 11-Sep-15
Reported: 14-Sep-15 15:09

LAB #	WS0028-01	-	-	-	-	-
SAMPLE ID	006-09-11-15	-	-	-	-	-
Reporting Unit	09/11/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0076 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	14.8 [3]	-	-	-	-
Zinc	0.020 mg/L	0.295	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.16 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

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Project: BHCTP

Sampled: 14-Sep-15
Received: 14-Sep-15
Reported: 15-Sep-15 16:20

LAB #	WS00266-01	-	-	-	-	-
SAMPLE ID	006-09-14-15	-	-	-	-	-
Reporting Unit	09/14/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0057 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	20.9 [3]	-	-	-	-
Zinc	0.020 mg/L	0.180	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.15 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	-	-	-	-

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Project: BHCTP

Sampled: 14-Sep-15
Received: 14-Sep-15
Reported: 21-Sep-15 15:27

LAB #	WSI0289-01	-	-	-	-	-
SAMPLE ID	KT-09-14-15	-	-	-	-	-
Reporting Unit	09/14/2015 07:35	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0816	-	-	-	-
Lead	0.0500 mg/L	0.544	-	-	-	-
Manganese	0.0200 mg/L	83.3 [3]	-	-	-	-
Zinc	0.020 mg/L	57.2 [1] [3]	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	5.38 [2]	-	-	-	-
Total Susp. Solids	5.0 mg/L	84.0	-	-	-	-

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Project: BHCTP

Sampled: 16-Sep-15
Received: 16-Sep-15
Reported: 17-Sep-15 14:31

LAB #	WS0013-01	-	-	-	-	-
SAMPLE ID	006-09-16-15	-	-	-	-	-
Reporting Unit	09/16/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0050 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	26.4 [3]	-	-	-	-
Zinc	0.020 mg/L	0.187	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.10 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	-	-	-	-

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Project: BHCTP

Sampled: 17-Sep-15
Received: 18-Sep-15
Reported: 24-Sep-15 12:01

LAB #	WS10077-01	WS10077-02	WS10077-03	-	-	-
SAMPLE ID	KT-09-17-15	PTM-09-17-15	CTPXX-09-17-15	-	-	-
Reporting Unit	09/17/2015 07:30	09/17/2015 08:00	09/17/2015 07:00	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.178	1.43	0.0534	-	-
Lead	0.0500 mg/L	0.619	<0.0030 [L]	0.317	-	-
Manganese	0.0200 mg/L	34.1	-	-	-	-
Zinc	0.020 mg/L	86.8	10.7	0.636	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	2.93 [L]	6.57 [L]	-	-	-
Total Susp. Solids	5.0 mg/L	32.0	0.6 [L]	-	-	-

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Project: BHCTP

Sampled: 18-Sep-15

Received: 18-Sep-15

Reported: 21-Sep-15 15:24

LAB #	WS0076-01	-	-	-	-	-
SAMPLE ID	006-09-18-15	-	-	-	-	-
Reporting Unit	09/18/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0037 [2]	-	-	-	-
Lead	0.0500 mg/L	0.0034 [2]	-	-	-	-
Manganese	0.0200 mg/L	17.7 [3]	-	-	-	-
Zinc	0.020 mg/L	0.210	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.03 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

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Project: BHCTP

Sampled: 21-Sep-15
Received: 21-Sep-15
Reported: 22-Sep-15 15:13

LAB #	WSID407-01	-	-	-	-	-
SAMPLE ID	006-09-21-15	-	-	-	-	-
Reporting Unit	09/21/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0040 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	22.8 [3]	-	-	-	-
Zinc	0.020 mg/L	0.171	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.22 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	2.2	-	-	-	-

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Ferguson Contracting 901 N. Division Pinehurst, ID 83850	Project: BHCTP	Sampled: 21-Sep-15 Received: 21-Sep-15 Reported: 25-Sep-15 09:54
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LAB #	WS10406-01	WS10406-02	-	-	-	-
SAMPLE ID	KT-09-21-15	QC-09-21-15	-	-	-	-
	09/21/2015 07:30	09/21/2015 07:30	-	-	-	-
	Reporting Limit					
Metals [Total] (Water)						
Cadmium	0.0100 mg/L	0.0743	0.0717	-	-	-
Lead	0.0500 mg/L	0.496	0.484	-	-	-
Manganese	0.0200 mg/L	81.9	79.7	-	-	-
Zinc	0.020 mg/L	46.4	44.6	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.44 [1]	3.43 [1]	-	-	-
Total Susp. Solids	5.0 mg/L	69.0	73.0	-	-	-

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Project: BHCTP

Sampled: 23-Sep-15
Received: 23-Sep-15
Reported: 24-Sep-15 12:00

LAB #	WSID045-01	-	-	-	-	-
SAMPLE ID	006-09-23-15	-	-	-	-	-
Reporting Unit	09/23/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0045 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	26.1 [3]	-	-	-	-
Zinc	0.020 mg/L	0.189	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.15 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.6	-	-	-	-

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Project: BHCTP

Sampled: 24-Sep-15 to 25-Sep-15

Received: 25-Sep-15

Reported: 30-Sep-15 13:39

LAB #	WS10540-01	WS10540-02	WS10540-03	WS10540-04	-	-
SAMPLE ID	KT-09-24-15	CTP10X-09-24-15	RB-09-25-15	TB-09-25-15	-	-
Reporting Unit	09/24/2015 07:30	09/24/2015 07:00	09/25/2015 06:00	09/25/2015 06:00	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.167	0.0520	<0.0009 [2]	<0.0009 [2]	-
Lead	0.0500 mg/L	0.760	0.308	<0.0000 [2]	<0.0010 [2]	-
Manganese	0.0200 mg/L	32.8	-	-	-	-
Zinc	0.020 mg/L	82.7	0.800	<0.004 [2]	<0.004 [2]	-
Classical Chemistry Parameters (Water)						
pH	pH Units	2.95 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	18.0	-	-	-	-

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Project: BHCTP

Sampled: 25-Sep-15

Received: 25-Sep-15

Reported: 28-Sep-15 15:20

LAB #	WS10539-01	WS10539-02	-	-	-	-
SAMPLE ID	006-09-25-15	QC-09-25-15	-	-	-	-
Reporting Unit	09/25/2015 06:00	09/25/2015 06:00	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0045 [2]	0.0049 [2]	-	-	-
Lead	0.0500 mg/L	<0.0010 [4]	<0.0010 [4]	-	-	-
Manganese	0.0200 mg/L	18.0 [3]	17.8	-	-	-
Zinc	0.020 mg/L	0.200	0.200	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.18 [1]	7.18 [1]	-	-	-
Total Susp. Solids	5.0 mg/L	1.8	2.4	-	-	-

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Project: BHCTP

Sampled: 28-Sep-15
Received: 28-Sep-15
Reported: 29-Sep-15 14:26

LAB #	WS10574-01	-	-	-	-	-
SAMPLE ID	006-09-28-15	-	-	-	-	-
Reporting Limit	09/28/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0037 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0030 [3]	-	-	-	-
Manganese	0.0200 mg/L	24.9	-	-	-	-
Zinc	0.020 mg/L	0.186	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.22 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.2	-	-	-	-

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Project: BHCTP

Sampled: 28-Sep-15
Received: 28-Sep-15
Reported: 30-Sep-15 13:40

LAB #	WS0075-01	-	-	-	-	-
SAMPLE ID	KT-09-28-15	-	-	-	-	-
Reporting Unit	09/28/2015 07:30	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0712	-	-	-	-
Lead	0.0500 mg/L	0.667	-	-	-	-
Manganese	0.0200 mg/L	79.3 [2]	-	-	-	-
Zinc	0.020 mg/L	45.2 [2]	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	3.47 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	77.0	-	-	-	-

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Project: BHCTP

Sampled: 30-Sep-15
Received: 30-Sep-15
Reported: 01-Oct-15 13:42

LAB #	WS10633-01	-	-	-	-	-
SAMPLE ID	006-09-30-15	-	-	-	-	-
Reporting Unit	09/30/2015 06:00	-	-	-	-	-
Metals (Total) (Water)						
Cadmium	0.0100 mg/L	0.0028 [2]	-	-	-	-
Lead	0.0500 mg/L	<0.0050 [4]	-	-	-	-
Manganese	0.0200 mg/L	30.7 [3]	-	-	-	-
Zinc	0.020 mg/L	0.218	-	-	-	-
Classical Chemistry Parameters (Water)						
pH	pH Units	7.21 [1]	-	-	-	-
Total Susp. Solids	5.0 mg/L	1.0	-	-	-	-

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